

BUILDING STANDARDS COMMISSION

2525 Natomas Park Drive, Suite 130
Sacramento, California 95833-2936
(916) 263-0916 FAX (916) 263-0959



February 7, 2014

Jason Crapo
Deputy Director
Contra Costa County
30 Muir Road
Martinez, CA 94553

RE: Ordinance #2013-24

Dear Mr. Crapo:

This letter is to advise you of our determination regarding the referenced ordinance with express findings received from your agency on December 23, 2013.

Our review finds the submittal to contain one ordinance modifying provisions of the 2013 California Building Standards Code in Title 24, California Code of Regulations (code), and express findings complying with Health and Safety Code §§17958.7 and 18941.5. The code modification is accepted for filing and is enforceable. This letter attests only to the satisfaction of the cited law for filing of local code amendment supported by an express finding with the Commission. The Commission is not authorized by law to evaluate the merit of the code modification or the express finding.

Local modifications to the code are specific to a particular edition of the code. They must be readopted and filed with the Commission in order to remain in effect when the next triennial edition of the code is published.

On a related matter, should your county receive and ratify Fire Protection District ordinances making modifications to the code, be advised that Health and Safety Code §13869.7(c) requires such ratified ordinances and express findings to be filed with the Department of Housing and Community Development, Division of Codes and Standards, State Housing Law Program, rather than this Commission. Also, ordinances making modifications to the energy efficiency standards of the code may require approval from the California Energy Commission pursuant to Public Resources Code §25402.1(h)(2).

If you have any questions or need any further information, you may contact me at (916) 263-0916.

Sincerely,

A handwritten signature in black ink that reads "Enrique M. Rodriguez". The signature is stylized and includes a large initial "E" and "R".

Enrique M. Rodriguez
Associate Construction Analyst

cc: Chron
Local Filings

**Department of
Conservation and
Development**

30 Muir Road
Martinez, CA 94553-4601

Phone: 1-855-323-2626

**Contra
Costa
County**



Catherine Kutsuris
Director

Aruna Bhat
Deputy Director

Jason Crapo
Deputy Director

John Kopchik
Deputy Director

December 18, 2013

Executive Director Jim McGowan
California Building Standards Commission
2525 Natomas Park Drive, Suite 130
Sacramento, CA 95833

Re: Adoption of 2013 California Building Code Ordinance

Dear Mr. McGowan

The purpose of this letter is to advise you that the Board of Supervisors of the County of Contra Costa has approved the 2013 California Building Code with amendments.

Attached for your review and filing is a certified copy of Ordinance 2013-24, including the findings, which confirms the Boards approval.

Sincerely,

Jason Crapo
Deputy Director

JC:td
Enc (2)

ORDINANCE NO. 2013-24**(Adoption of California Building Standards Codes)**

The Contra Costa County Board of Supervisors ordains as follows (omitting the parenthetical footnotes from the official text of the enacted or amended provisions of the County Ordinance Code):

SECTION I. Summary. This ordinance adopts the 2013 California Building Code, the 2013 California Residential Code, the 2013 California Green Building Standards Code, the 2013 California Electrical Code, the 2013 California Plumbing Code, and the 2013 California Mechanical Code, with changes, additions, and deletions that are necessary because of local climatic, geological, or topographical conditions. This ordinance is adopted pursuant to Health and Safety Code sections 17922, 17958, 17958.5, and 17958.7, and Government Code sections 50020 through 50022.10.

SECTION II. Section 74-2.002 (Adoption) of Division 74 (Building Code) of the County Ordinance Code is amended to read:

74-2.002 Adoption.

- (a) The building code of this county is the 2013 California Building Code (California Code of Regulations, Title 24, Part 2, Volumes 1 and 2), the 2013 California Residential Code (California Code of Regulations, Title 24, Part 2.5), and the 2013 California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), as amended by the changes, additions, and deletions set forth in this ordinance and Division 72.
- (b) The 2013 California Building Code, with the changes, additions, and deletions set forth in this chapter and Division 72, is adopted by this reference as though fully set forth in this ordinance.
- (c) The 2013 California Residential Code, with the changes, additions, and deletions set forth in this chapter and Division 72, is adopted by this reference as though fully set forth in this ordinance.
- (d) The 2013 California Green Building Standards Code, with the changes, additions, and deletions set forth in Division 72, is adopted by this reference as though fully set forth in this ordinance.
- (e) At least one copy of this building code is now on file with the building inspection division, and the other requirements of Government Code section 50022.6 have been and shall be complied with.

ORDINANCE NO. 2013-24

- (f) As of the effective date of this ordinance, the provisions of the building code are controlling and enforceable within the county. (Ords. 2013-24 § 2, 2011-03 § 2, 2007-54 § 3, 2002-31 § 3, 99-17 § 5, 99-1, 90-100 § 5, 87-55 § 4, 80-14 § 5, 74-30.)

SECTION III. Chapter 74-4 (Modifications) of Division 74 (Building Code) of the County Ordinance Code is amended to read:

**Chapter 74-4
MODIFICATIONS**

74-4.002 Amendments to CBC. The 2013 California Building Code ("CBC") is amended by the changes, additions, and deletions set forth in this chapter and Division 72. Section numbers used below are those of the 2013 California Building Code.

(a) CBC Chapter 1 is amended by the provisions of Division 72 of this code and as follows:

- (1) Sections 103, 109, 112, 113, 114, and 116 of CBC Chapter 1 are deleted.
- (2) In Section 105.2 (Work Exempt from Permit) of CBC Chapter 1, subsection 4 is amended to read:
 4. Retaining walls that are not more than three feet in height, measured from the top of the footing to the top of the wall, unless supporting a surcharge or ground slope exceeding 1(vertical):2(horizontal) or impounding Class I, II, or III-a liquids.
- (3) Section 107.1 (Submittal Documents – General) of CBC Chapter 1 is amended by deleting the exception.
- (4) Section 107.2.1 (Information on Construction Documents) of CBC Chapter 1 is amended to read:

107.2.1 Construction documents shall include dimensions and shall be drawn to scale on suitable material. Electronic media documents may be submitted when approved in advance by the building official. Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and to show in detail that it will conform to this code and all relevant laws, ordinances, rules and regulations. The first sheet of each set of plans shall give the house and street address of the work and the name and address of the owner and of the person who prepared the plans. Plans shall include a plot plan showing all existing property lines labeled and fully dimensioned, the elevation of the top and toe of cuts and fills, and the location of the proposed building with distances to all property lines and of every existing building on the property. Instead of detailed specifications, the county building official may approve references on the plans to a specific section or part of this code or other ordinances or laws.

ORDINANCE NO. 2013-24

- (5) Section 110.1 (Inspections – General) is amended by adding the following to the end of the section:

At the time of first inspection by the county building official, a licensed Land Surveyor or Civil Engineer shall certify in writing that the structure is placed according to the approved set of plans. The written certification must include the site address and permit number. This requirement does not apply to alterations or repairs to existing structures that do not affect the exterior limits of the existing structures.

- (b) Section 907.2.11.6 (Existing Group R Occupancies) of CBC Chapter 9 (Fire Protection Systems), is amended to read:

907.2.11.6 Existing Group R Occupancies. In existing flat roof buildings, the installation of a smoke detector that complies with Section R314.4 shall be required when a pitch roof is added on top of the existing flat roof and the solid sheathing of the flat roof is not removed.

- (c) Section 1406.5 is added to Section 1406 (Combustible Materials on the Exterior Side of Exterior Walls) of CBC Chapter 14 (Exterior Walls), to read:

1406.5 Wood shakes or shingles. Wood shakes or shingles used for exterior wall covering shall be fire treated unless there is a minimum of 10 feet from the exterior wall (including shakes or shingles) to the property line of all sides, except for any sides of exterior walls facing the street.

- (d) In Section 1705.3 (Concrete Construction) of CBC Chapter 17 (Structural Tests and Special Inspections), Exception 1 is amended to read:

1. Isolated spread concrete footings of buildings three stories or less above grade plane that are fully supported on earth or rock, where the structural design of the footing is based on a specified compressive strength of no greater than 2,500 pound per square inch (psi) (17.2 Mpa).

- (e) Section 1809.8 (Plain Concrete Footings) of CBC Chapter 18 (Soils and Foundations) is deleted.

- (f) Section 1810.3.9.3 (Placement of reinforcement) of CBC Chapter 18 (Soils and Foundations) is amended by deleting Exception No. 3.

- (g) Section 1905.1 (Modification of ACI 318 – General) of CBC Chapter 19 (Concrete) is amended to read:

1905.1 General. The text of ACI 318 shall be modified as indicated in Sections 1905.1.1 through 1905.1.9

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- (h) Section 1906 (Structural Plain Concrete) of CBC Chapter 19 (Concrete) is deleted.
- (i) Section 1907.1 (Minimum Slab Provisions – General) of CBC Chapter 19 (Concrete) is amended by adding the following sentence to that section:

Slabs shall have six-inch by six-inch by ten-gauge wire mesh or equal at midheight.

- (j) Appendix C and Appendix I of the CBC are incorporated into the County building code. Appendix A, Appendix B, Appendix D, Appendix E, Appendix F, Appendix G, Appendix H, Appendix J, Appendix K, Appendix L and Appendix M of the CBC are excluded from the County building code. (Ords. 2013-24 § 3, 2011-03 § 3, 2007-54 § 4, 2002-31 § 3, 99-17 § 6, 99-1, 90-100 § 6, 87-55 § 5, 80-14 § 6, 74-30 § 1.)

74-4.004 Amendments to CRC. The 2013 California Residential Code (“CRC”) is amended by the changes, additions, and deletions set forth in this chapter and Division 72. Section numbers used below are those of the 2013 California Residential Code.

- (a) Sections R103, R108, R111, R112, R113, and R114 of CRC Chapter 1 are deleted.
- (b) In Section R105.2 (Work exempt from permit) of CRC Chapter 1 (Scope and Application), subsection 3 is amended to read:

- 3. Retaining walls that are not more than three feet in height, measured from the top of the footing to the top of the wall, unless supporting a surcharge or ground slope exceeding 1(vertical):2(horizontal) or impounding class I, II, or III-a liquids.

- (c) Section R403.1.3 (Seismic reinforcing) of CRC Chapter 4 (Foundations) is amended to delete the exception.
- (d) Section R404.1.4.1 (Masonry foundation walls) of CRC Chapter 4 (Foundations) is amended to read:

R404.1.4.1 Masonry foundation walls. In addition to the requirements of Table R404.1.1(1), plain masonry walls in buildings assigned to Seismic Design Category D₀, D₁, or D₂ shall comply with the seismic requirements of Section 1.18.4.4 of TMS 402, ACI 530, or ASCE 5.

- (e) Section R404.1.4.2 (Concrete foundation walls) of CRC Chapter 4 (Foundations) is amended to read:

Section R404.1.4.2 Concrete foundation walls. Concrete foundation walls in buildings assigned to Seismic Design Category D₀, D₁, or D₂ shall comply with ACI 318, ACI 332, or PCA 100.

(Ords. 2013-24 § 3, 2011-03 § 3.)

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SECTION IV. Division 76 (Electrical Code) of the County Ordinance Code is amended to read:

**Division 76
ELECTRICAL CODE**

**Chapter 76-2
ADOPTION**

76-2.002 Adoption.

- (a) The electrical code of this county is the 2013 California Electrical Code (California Code of Regulations, Title 24, Part 3), as amended by the changes, additions, and deletions set forth in this ordinance.
- (b) The 2013 California Electrical Code, with the changes, additions, and deletions set forth in this division and Division 72, is adopted by this reference as though fully set forth in this ordinance.
- (c) At least one copy of this electrical code is now on file with the building inspection division, and the other requirements of Government Code section 50022.6 have been and shall be complied with.
- (d) As of the effective date of this ordinance, the provisions of the electrical code are controlling and enforceable within the county. (Ords. 2013-24 § 4, 2011-03 § 4, 2007-54 § 5, 2002-31 § 4, 99-17 § 11, 89-60 § 2, 82-23 § 2, 79-67, 76-24.)

**Chapter 76-4
MODIFICATIONS**

76-4.002 Unlawful wiring, electric fences, warning.

- (a) Prohibition. Except as provided in subsection (b), a person may not construct or maintain any spring gun, or any electric wiring device, designated or intended to injure and/or shock animals or persons, or any contrivance or apparatus for that purpose.
- (b) Livestock Exception. Persons principally engaged in the business of handling livestock as a primary means of production or income may electrify fences to control or confine livestock upon complying with all the following requirements:
 - (1) Any contrivance or mechanism to control electrical current in such fences shall be listed by an approved testing laboratory, and shall include a suitable interrupting device and such other safety devices to prevent dangerous currents getting on the fence at any time.
 - (2) Any electrical fence to which the public may have access, except cross fences to confine and control livestock, shall be posted with a warning notice containing the

ORDINANCE NO. 2013-24

following or similar wording: "DANGER. ELECTRIC FENCE," or "DANGER. HIGH VOLTAGE." This notice shall be posted along any such main fence at intervals of not more than 200 feet and in letters at least two inches high. (Ords. 2013-24 § 4, 2011-03 § 4, 2007-54 § 5, 2002-31 § 4, 99-17 § 11, 89-60 § 2, 82-23 § 2, 79-57, 76-24.)

76-4.004 Boat docks. Whether open or roofed, lighting shall be provided to insure sufficient protective lighting at least two foot candles at all points for pedestrians on the docks, within covered berths, and on all walkways or ramps to shore and to the nearest access road within or adjacent to the harbor property. (Ords. 2013-24 § 4, 2011-03 § 4, 2007-54 § 5, 2002-31 § 4, 99-17 § 11, 89-60 § 2, 82-23 § 2, 79-67, 76-24.)

76-4.006 Power from generators.

- (a) All occupancies that have commercially supplied electricity shall connect to the commercial supplier.
- (b) Any occupancy that has commercially supplied electricity shall not use a permanent or temporary generator(s), provided that a generator(s) may be used for commercial purposes when authorized by the county building official. (Ords. 2013-24 § 4, 2011-03 § 4, 2007-54 § 5, 2005-32 § 2.)

76-4.008 Public nuisance lighting. Lighting fixtures shall be installed, controlled or directed so that the light will not glare or be blinding to pedestrians or vehicular traffic or on adjoining property. (Ords. 2013-24 § 4, 2011-03 § 4, 2007-54 § 5, 2002-31 § 4, 99-17 § 11, 89-60 § 2, 82-23 § 2, 79-67, 76-24.)

SECTION V. Section 78-2.002 (Adoption) of Division 78 (Plumbing Code) of the County Ordinance Code is amended to read:

78-2.002 Adoption.

- (a) The plumbing code of this county is the 2013 California Plumbing Code (California Code of Regulations, Title 24, Part 5), as amended by the changes, additions, and deletions set forth in this ordinance.
- (b) The 2013 California Plumbing Code, with the changes, additions, and deletions set forth in Division 72, is adopted by this reference as though fully set forth in this ordinance.
- (c) At least one copy of this plumbing code is now on file with the building inspection division, and the other requirements of Government Code section 50022.6 have been and shall be complied with.

ORDINANCE NO. 2013-24

- (d) As of the effective date of this ordinance, the provisions of the plumbing code are controlling and enforceable within the county. (Ords. 2013-24 § 5, 2011-03 § 5, 2007-54 § 6, 2002-31 § 5, 99-17 § 12, 74-29.)

SECTION VI. Section 710-2.002 (Adoption) of Division 710 (Mechanical Code) of the County Ordinance Code is amended to read:

710-2.002 Adoption.

- (a) The mechanical code of this county is the 2013 California Mechanical Code (California Code of Regulations, Title 24, Part 4), as amended by the changes, additions, and deletions set forth in this ordinance.
- (b) The 2013 California Mechanical Code, with the changes, additions, and deletions set forth in Division 72, is adopted by this reference as though fully set forth in this ordinance.
- (c) At least one copy of this mechanical code is now on file with the building inspection division, and the other requirements of Government Code section 50022.6 have been and shall be complied with.
- (d) As of the effective date of this ordinance, the provisions of the mechanical code are controlling and enforceable within the county. (Ords. 2013-24 § 6, 2011-03 § 6, 2007-54 § 7, 2002-31 § 6, 99-17 § 13, 88-91 § 5, 74-31.)

SECTION VII. Validity. The Contra Costa County Board of Supervisors declares that if any section, paragraph, sentence or word of this ordinance or of the 2013 California Building Code, Residential Code, Green Building Code, Plumbing Code, or Electrical Code, as adopted and amended herein is declared for any reason to be invalid, it is the intent of the Contra Costa County Board of Supervisors that it would have passed all other portions or provisions of this ordinance independent of the elimination here from any portion or provision as may be declared invalid.

SECTION VIII. Effective Date. This ordinance becomes effective 30 days after passage, and within 15 days of passage shall be published once in the Contra Costa Times, a newspaper published in this County. This ordinance shall be published in a manner satisfying the requirements of Government Code section 25124, with the names of supervisors voting for and against it.

ORDINANCE NO. 2013-24

Passed on December 3 2018, by the following vote:

AYES: Goia, Anderson, Piepho, Mitchoff, Glover

NOES: None

ABSENT: None

ABSTAIN: None

ATTEST: David Twa,
Clerk of the Board of Supervisors
and County Administrator

[Signature]
Board Chair

By: [Signature]
Deputy



SMS

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ORDINANCE NO. 2013-24

CONTRA. COSTA COUNTY
FINDINGS IN SUPPORT OF CHANGES, ADDITIONS, AND DELETIONS TO
STATEWIDE BUILDING STANDARDS CODE

The California Building Standards Commission has adopted and published the 2013 Building Standards Code, which is comprised of the 2013 California Building, Residential, Green Building Standards, Electrical, Plumbing, and Mechanical codes. These codes are enforced in Contra Costa County by the Building Inspection Division of the Department of Conservation and Development.

Although these codes apply statewide, Health and Safety Code sections 17958.5 and 18941.5 authorize a local jurisdiction to modify or change these codes and establish more restrictive building standards if the jurisdiction finds that the modifications and changes are reasonably necessary because of local climatic, geological or topographical conditions.

Ordinance No. 2013-24 adopts the statewide codes and amends them to address local conditions. Pursuant to Health and Safety Code section 17958.7, the Contra Costa County Board of Supervisors finds that the more restrictive standards contained in Ordinance No. 2013-24 are reasonably necessary because of the local climatic, geological, and topographic conditions that are described below.

I. Local Conditions

A. Geological and Topographic

1. Seismicity

(a) Conditions

Contra Costa County is located in Seismic Design Categories D and E, which is the most severe earthquake area in the United States. Buildings and other structures in these zones can experience major seismic damage. Contra Costa County is in close proximity to numerous earthquake faults including the San Andreas Fault and contains all or portions of the Hayward, Calaveras, Concord, Antioch, Mt. Diablo, and other lesser faults. A 4.1 earthquake with its epicenter in Concord occurred in 1958, and a 5.4 earthquake with its epicenter also in Concord occurred in 1955. The Concord and Antioch faults have a potential for a Richter 6 earthquake and the Hayward and Calaveras faults have the potential for a Richter 7 earthquake. Minor tremblers from seismic activity are not uncommon in the area.

A study released in 1990 by the United States Geological Survey says that there is a 67% chance of another earthquake the size of Loma Prieta during the next 30 years, and that the quake could strike at any time, including today. Scientists, therefore, believe that an earthquake of a magnitude 7 or larger is now twice as likely to happen as to not happen.

Interstates 680, 80, 580 and State Route 4 run the length throughout Contra Costa County. These interstates and state routes divide the County into a west, south, north and east. An overpass or undercrossing collapse would significantly alter the response route and time for responding emergency equipment. This is due to limited crossings of the interstate and that in some areas there is only one surface street, which runs parallel to the interstate, which would be congested during a significant emergency.

Earthquakes of the magnitude experienced locally can cause major damage to electrical transmission facilities and to gas and electrical lines in buildings, which in turn start fires throughout the County. The occurrence of multiple fires will quickly deplete existing fire department resources; thereby reducing and/or delaying their response to any given fire.

(b) Impact

A major earthquake could severely restrict the response of all Contra Costa County Fire Districts and their capability to control fires involving buildings of wood frame construction, with ordinary roofing materials and flammable exteriors, or with large interior areas not provided with automatic smoke and fire control systems. Also, when buildings not equipped with earthquake structural support move off their foundations, gas pipes may rupture. Fires develop from line ruptures and spread from house to house, causing an extreme demand for fire protection resources. The proximity of large areas within the County to fault traces, necessitates adopting stricter structural construction standards.

2. Soils

(a) Conditions

The area is replete with various soils, which are unstable, clay loam and alluvial fans being predominant. These soil conditions are

moderately to severely prone to swelling and shrinking, are plastic, and tend to liquefy.

In many areas of Contra Costa County, the topography and development growth has created a network of older, narrow roads. These roads vary from gravel to asphalt surface and vary in percent of slope, some exceeding twenty (20) percent. Several of these roads extend up through the winding passageways in the hills providing access to remote housing subdivisions. Some of these roads are private access roads that are not maintained by a public agency and therefore have no formal maintenance program. During inclement weather, these roads are subject to rock and mudslides, as well as down trees, obstructing all vehicle traffic. It is anticipated that during an earthquake, several of these roads would be impassable so as to prevent fire protection resources from reaching fires caused by gas line ruptures or other sources.

3. Topographic

(a) Conditions

i. Vegetation

Highly combustible dry grass, weeds, and brush are common in the hilly and open space areas adjacent to built-up locations six (6) to eight (8) months of each year. Many of these areas frequently experience wildland fires, which threaten nearby buildings, particularly those with wood roofs, or sidings. This condition can be found throughout Contra Costa County, especially in those developed and developing areas of the County. Earthquake gas fires due to gas line ruptures can ignite grasslands and stress fire district resources.

ii. Surface Features

The arrangement and location of natural and manmade surface features, including hills, creeks, canals, freeways, housing tracts, commercial development, fire stations, streets and roads, combine to limit feasible response routes for Fire District resources in and to District areas.

iii. Buildings, Landscaping and Terrain

The surface features of the County's topography preclude or

greatly limit the approach or operational access of Fire District vehicles to some building complexes within the County. In addition, the presence of security gates and private roads with narrow widths and steep grades adversely affect fire suppression efforts.

When Fire District vehicles cannot gain access to buildings involved with fire, the potential for complete loss is realized. Difficulty reaching a fire site places a significant burden on fire-fighting personnel. Access problems often result in severely delaying, misdirecting or making impossible fire and smoke control efforts. In existing structures where pitch roofs have been built over an existing roof, smoke detectors should be required to warn residents of smoke and fire before the arrival of fire personnel.

(b) Impact

The above local geological and topographical conditions increase the magnitude, exposure, accessibility problems, and fire hazards presented to the County fire resources. Fire following an earthquake has the potential of causing greater loss of life and damage than the earthquake itself. Most earthquake fires are created by natural gas developed from gas line ruptures. Hazardous materials, particularly toxic gases, could pose the greatest threat to the largest number, should a significant seismic event occur. Public safety resources would have to be prioritized to mitigate the greatest threat, and may likely be unavailable for smaller single dwellings that were caused by broken gas lines.

Other variables may tend to intensify the situation:

1. The extent of damage to the water system
2. The extent of isolation due to bridge and/or freeway overpass collapse.
3. The extent of roadway damage and/or amount of debris blocking the roadways.
4. Climatic condition (hot, dry weather with high winds).
5. Time of day will influence the amount of traffic on roadways and could intensify the risk to life during normal business hours.
6. The availability of timely mutual aid or military assistance.
7. The large portion of dwellings with wood shake or shingle

coverings (both on the roof diaphragm and sides of the dwellings) could result in conflagrations.

8. The large number of dwellings that slip off their foundations and rupture gas lines and electrical systems resulting in further conflagrations.

B. Climatic

1. Precipitation and Relative Humidity

(a) Conditions

Precipitation ranges from 15 to 24 inches per year with an average of approximately 20 inches per year. Ninety-six (96) percent falls during the months of October through April and *four (4)* percent from May through September. This is a dry period of at least five (5) months each year.

Additionally, the area is subject to occasional drought.

Relative humidity remains in the middle range most of the time. It ranges from forty-five (45) to sixty-five (65) percent during spring, summer, fall, and from sixty (60) to ninety (90) percent in the winter. It occasionally falls as low as fifteen (15) percent.

(b) Impact

Locally experienced dry periods cause extreme dryness of untreated wood shakes and shingles on buildings and non-irrigated grass, brush and weeds, which are often near buildings with wood roofs and sidings. Such dryness causes these materials to ignite very readily and burn rapidly and intensely. Gas fires due to gas line ruptures can also spark and engulf a single family residence during these dry periods.

Because of dryness, a rapidly burning gas fire or exterior building fire can quickly transfer to other buildings by means of radiation or flying brands, sparks or embers. A small fire can rapidly grow to a magnitude beyond the control capabilities of the Fire District resulting in an excessive fire loss.

2. Temperature

(a) Conditions

Temperatures have been recorded as high as 114° F. Average summer

highs are in the 75° to 90° range, with average maximums of 105° F in some areas of unincorporated Contra Costa County.

(b) Impact

High temperatures cause rapid fatigue and heat exhaustion of firefighters, thereby reducing their effectiveness and ability to control large building, wildland fires, and fires caused by gas line ruptures.

Another impact from high temperatures is that combustible building material and non-irrigated weeds, grass and brush are preheated, thus causing these materials to ignite more readily and burn more rapidly and intensely. Additionally, the resultant higher temperature of the atmosphere surrounding the materials reduces the effectiveness of the water being applied to the burning materials. This requires that more water be applied, which in turn requires more fire resources in *order* to control a fire on a hot day. High temperatures directly contribute to the rapid growth of fires to an intensity and magnitude beyond the control capabilities of the Fire Districts in Contra Costa County. The change of temperatures throughout the County between very low and extreme highs contributes to a voltage drop in conductors used for power pole lines. This necessitates that voltage drops be considered.

3. Winds

(a) Conditions

Prevailing winds in many parts of Contra Costa County are from the north or northwest in the afternoons. However, winds are experienced from virtually every direction at one time or another. Velocities can reach fourteen (14) mph to twenty-three (23) mph ranges, gusting to twenty-five (25) to thirty-five (35) mph. Forty (40) mph winds are experienced occasionally and winds up to fifty-five (55) mph have been registered locally. During the winter half of the year, strong, dry, gusty winds from the north move through the area for several days creating extremely dry conditions.

(b) Impact

Winds such as those experienced locally can and do exacerbate fires, both interior and exterior, to burn, and spread rapidly. Fires involving non-irrigated weeds, grass, brush, and fires caused by gas line ruptures can grow to a magnitude and be fanned to an intensity

beyond the control capabilities of the fire services very quickly even by relatively moderate winds. When such fires are not controlled; they can extend to nearby buildings, particularly those with untreated wood shakes or shingles.

Winds of the type experienced locally also reduce the effectiveness of exterior water streams used by all Contra Costa County Fire Districts on fires involving large interior areas of buildings, fires which have vented through windows and roofs due to inadequate built-in fire protection and fires involving wood shake and shingle building exteriors. Local winds will continue to be a definite factor toward causing major fire losses to buildings not provided with fire resistive roof and siding materials and buildings with inadequately separated interior areas, or lacking automatic fire protection systems, or lacking proper gas shut-off devices to shut off gas when pipes are ruptured, or lacking proper electrical systems. National statistics frequently cite wind conditions, such as those experienced locally, as a major factor where conflagrations have occurred.

II. Necessity of More Restrictive Standards

Because of the conditions described above, the Contra Costa County Board of Supervisors finds that there are building and fire hazards unique to Contra Costa County that require the increased fire protection and structural and design load requirements set forth in Ordinance No. 2013-24. The ordinance amends the statewide codes by requiring the installation of smoke detectors in existing flat roof buildings when a pitch roof is added on top of the existing flat roof and the solid sheathing of the flat roof is not removed (§ 74-4.002(b).) The ordinance amends the statewide codes by requiring most wood shakes or shingles used for exterior wall covering to be fire treated (§ 74-4.002(c).) The ordinance amends the statewide code by requiring special inspections for concrete at certain foundations to be consistent with code requirements for concrete at other locations (§ 74-4.002(d).) The ordinance modifies the statewide codes by requiring masonry foundation walls and concrete foundation walls of residential structures to comply with more restrictive seismic requirements (§ § 74-4.004(d), 74-4.004(e).)

BUILDING STANDARDS COMMISSION

2525 Natomas Park Drive, Suite 130
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(916) 263-0916 FAX (916) 263-0959



February 26, 2016

John Kopchik
Director
Contra Costa County
30 Muir Road
Martinez, CA 94553

RE: Ordinance #2015-22

Dear Mr. Kopchik:

This letter is to advise you of our determination regarding the referenced ordinance with express findings received from your agency on February 8, 2016.

Our review finds the submittal to contain one ordinance modifying provisions of the 2013 California Building Standards Code in Title 24, California Code of Regulations (code), and express findings complying with Health and Safety Code Sections 17958.7 and 18941.5. The code modification is accepted for filing and is enforceable. This letter attests only to the satisfaction of the cited law for filing of local code amendment supported by an express finding with the California Building Standards Commission (CBSC). CBSC is not authorized by law to evaluate the merit of the code modification or the express finding.

Local modifications to the code are specific to a particular edition of the code. They must be readopted and filed with CBSC in order to remain in effect when the next triennial edition of the code is published.

On a related matter, should your county receive and ratify Fire Protection District ordinances making modifications to the code, be advised that Health and Safety Code Section 13869.7(c) requires such ratified ordinances and express findings to be filed with the Department of Housing and Community Development, Division of Codes and Standards, State Housing Law Program, rather than CBSC. Also, ordinances making modifications to the energy efficiency standards of the code may require approval from the California Energy Commission pursuant to Public Resources Code Section 25402.1(h)(2).

If you have any questions or need any further information, you may contact me at (916) 263-0916.

Sincerely,


Enrique M. Rodriguez
Associate Construction Analyst

cc: CBSC Chron
Local Filings

**Department of
Conservation and
Development**

30 Muir Road
Martinez, CA 94553

Phone:1-855-323-2626

**Contra
Costa
County**



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STANDARDS COMMISSION

John Kopchik
Director

Aruna Bhat
Deputy Director

Jason Crapo
Deputy Director

Maureen Toms
Deputy Director

February 3, 2016

Michael Nearman
Acting Executive Director
California Building Standards Commission
2525 Natomas Park Drive, Suite 130
Sacramento, CA 95833

RE: 2013 California Green Building Code

Dear Mr. Nearman:

The purpose of this letter is to advise you that the Board of Supervisors of the County of Contra Costa have adopted local amendments to Chapters 4 and 5 the California Green Building Standards Code adopted by the California Building Standards Commission.

Attached for your review and filing is a certified copy of Ordinance No. 2015-22, including the findings, which confirms the Board's adoption.

Sincerely,

John Kopchik
Director

Enclosures

cc: Jason Crapo, Department of Conservation and Development
Stephen Siproth, County Counsel
Joseph E. Canciamilla, Clerk-Recorder
Jami Napier, Chief Assistant Clerk of the Board

ORDINANCE NO. 2015-22

(Amendment of 2013 California Green Building Standards Code)

The Contra Costa County Board of Supervisors ordains as follows (omitting the parenthetical footnotes from the official text of the enacted or amended provisions of the County Ordinance Code):

SECTION I. Summary. This ordinance amends the 2013 California Green Building Standards Code, including the July 1, 2015 supplement, to establish electric vehicle parking and charging station standards. This ordinance is adopted pursuant to Health and Safety Code sections 17922, 17958, 17958.5, and 17958.7, and Government Code sections 50020 through 50022.10.

SECTION II. Section 74-4.006 is hereby added to Chapter 74-4 of the Ordinance Code to read:

74-4.006 Amendments to the Green Building Standards Code. The 2013 California Green Building Standards Code, including the July 1, 2015 supplement, is amended by the changes, additions, and deletions set forth in this chapter and Division 72. Section numbers used below are those of the 2013 Green Building Standards Code, including the July 1, 2015 supplement.

(a) Section 4.106.4.2 of Chapter 4 of the Green Building Standards Code is amended to read:

4.106.4.2 New multifamily dwellings. For any new multifamily dwelling other than a dwelling type specified in Section 4.106.4.1, at least five percent of the total number of parking spaces provided for all types of parking facilities, but in no case no less than one parking space, shall be electric vehicle charging stations (EVCS). Each EVCS shall be equipped with fully operational electric vehicle supply equipment (EVSE). The location of each EVCS shall be identified on construction documents. Calculations to determine the number of EVCS shall be rounded up to the nearest whole number.

(b) Section 5.106.5.3 of Chapter 5 of the Green Building Standards Code is amended to read:

5.106.5.3 Electric vehicle (EV) charging. [N] New nonresidential construction shall comply either with Section 5.106.5.3.1 or Section 5.106.5.3.2, whichever is applicable, and provide the required number of fully operational EVCSs. Each EVCS shall be installed in accordance with the California Building Code and California Electrical Code, and the requirements of Section 5.106.5.3.1 or Section 5.106.5.3.2, whichever is applicable.

(c) Section 5.106.5.3.1 of Chapter 5 of the Green Building Standards Code is amended to read:

5.106.5.3.1 Single charging space requirements. [N] If Table 5.106.5.3.3 requires only one EVCS for new nonresidential construction, one fully operational EVCS must be

ORDINANCE NO. 2015-22

installed in accordance with the California Electrical Code. The construction plans and specifications for the new nonresidential construction must satisfy the following requirements:

1. The type and location of the EVSE must be identified on the plans and specifications.
2. The plans and specifications must establish that each raceway is not less than trade size one inch.
3. Each listed raceway capable of accommodating a 208/240-volt dedicated branch circuit must be identified on the plans and specifications.
4. Each raceway must originate at a service panel or subpanel serving the area where the EVSE will be located, and must terminate at the location of the required charging equipment and into a listed, suitable cabinet, box, enclosure, or equivalent structure.
5. Each service panel or subpanel must have sufficient capacity to accommodate a minimum 40-ampere dedicated branch circuit for the EVSE.

(d) Section 5.106.5.3.2 of Chapter 5 of the Green Building Standards Code is amended to read:

5.106.5.3.2 Multiple charging space requirements. [N] If Table 5.106.5.3.3 requires more than one EVCS for new nonresidential construction, the number of fully operational EVCSs specified in Table 5.106.5.3.3 must be installed in accordance with the California Electrical Code. The construction plans and specifications for the new nonresidential construction must satisfy the following requirements:

1. The type and location of the EVSEs must be identified.
2. Each raceway must originate at a service panel or subpanel serving the area where the EVSE will be located, and must terminate at the location of the required charging equipment and into a listed, suitable cabinet, box, enclosure, or equivalent structure.
3. Each service panel or subpanel must have sufficient capacity to accommodate a minimum 40-ampere dedicated branch circuit for the EVSE.
4. The plans and specifications must include electrical calculations to substantiate that the design of the electrical system, including the rating of equipment and any onsite distribution transformers, has sufficient capacity to simultaneously charge EVs at all EVSEs at their full-rated amperage.

5. Each service panel or subpanel must have sufficient capacity to accommodate the required number of dedicated branch circuits for the EVSEs that will be installed.

(e) Section 5.106.5.3.3 in Chapter 5 of the Green Building Standards Code is amended to read:

5.106.5.3.3 EV charging space calculations. [N] The required number of charging spaces with EVCSs for new nonresidential construction must be calculated in accordance with Table 5.106.5.3.3, subject only to the following exception.

Exception. On a case-by-case basis, the building official may require new construction to include fewer EV charging spaces than would otherwise be required by Table 5.106.5.3.3, or require no spaces, if the building official determines either of the following:

1. There is insufficient electrical supply to the new construction to adequately serve the required number of EV charging spaces.
2. The cost of the new construction will be substantially adversely impacted by any local utility infrastructure design requirements that are directly related to the installation of the required number or EV charging spaces.

TABLE 5.106.5.3.3

NONRESIDENTIAL CHARGING SPACE CALCULATION	
TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED EV CHARGING SPACES
1-10	0
11-25	2
26-50	3
51-75	5
76-100	6
101-200	12
201 and over	6% of total number of parking spaces*
*Calculation for spaces shall be rounded up to the nearest whole number	

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CALIFORNIA BUILDING STANDARDS COMMISSION

- (f) Section 5.106.5.3.4 of Chapter 5 of the Green Building Standards Code is amended to read:

5.106.5.3.4 [N] Identification. Each service panel or subpanel circuit directory must identify the reserved overcurrent protective device space or spaces for EV charging as "EV CAPABLE." Each raceway termination location must be permanently and visibly marked "EV CAPABLE."

- (g) Section 5.106.5.3.5 of Chapter 5 of the Green Building Standards Code is amended to read:

Section 5.106.5.3.5 [N] Each EV charging space required by Section 5.106.5.3.3 shall be counted as one designated parking space required by Section 5.106.5.2.

(Ord. 2015-22, § 2.)

SECTION III. Effective Date. This ordinance becomes effective 30 days after passage, and within 15 days of passage shall be published once in the Contra Costa Times, a newspaper published in this County. This ordinance shall be published in a manner satisfying the requirements of Government Code section 25124, with the names of supervisors voting for and against it.

Passed on December 8 2015, by the following vote:

AYES: Gioia, Andersen, Piepho, Mitchoff, Glover

NOES: None

ABSENT: None

ABSTAIN: None

ATTEST: David Twa,
Clerk of the Board of Supervisors
and County Administrator


Board Chair

By: 
Deputy



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CONTRA COSTA COUNTY
FINDINGS IN SUPPORT OF CHANGES, ADDITIONS, AND DELETIONS TO
STATEWIDE BUILDING STANDARDS CODE

The California Building Standards Commission has adopted and published the 2013 Building Standards Code, which is comprised of the 2013 California Building, Residential, Green Building Standards, Electrical, Plumbing, and Mechanical codes. These codes are enforced in Contra Costa County by the Building Inspection Division of the Department of Conservation and Development.

Although these codes apply statewide, Health and Safety Code sections 17958.5 and 18941.5 authorize a local jurisdiction to modify or change these codes and establish more restrictive building standards if the jurisdiction finds that the modifications and changes are reasonably necessary because of local climatic, geological or topographical conditions.

Ordinance No. 2015-22 adopts the statewide codes and amends them to address local conditions. Pursuant to Health and Safety Code section 17958.7, the Contra Costa County Board of Supervisors finds that the more restrictive standards contained in Ordinance No. 2015-22 are reasonably necessary because of the local climatic, geological, and topographic conditions that are described below.

I. Local Conditions

A. Geological and Topographic

1. Seismicity

(a) Conditions

Contra Costa County is located in Seismic Design Categories D and E, which is the worst earthquake area in the United States. Buildings and other structures in these zones can experience major seismic damage. Contra Costa County is in close proximity to numerous earthquake faults including the San Andreas Fault and contains all or portions of the Hayward, Calaveras, Concord, Antioch, Mt. Diablo, and other lesser faults. A 4.1 earthquake with its epicenter in Concord occurred in 1958, and a 5.4 earthquake with its epicenter also in Concord occurred in 1955. The Concord and Antioch faults have a potential for a Richter 6 earthquake and the Hayward and Calaveras faults have the potential for a Richter 7 earthquake. Minor tremblers from seismic activity are not uncommon in the area.

A study released in 1990 by the United States Geological Survey says that there is a 67% chance of another earthquake the size of Loma Prieta during the next 30 years, and that the quake could strike at any time, including today. Scientists, therefore, believe that an earthquake of a magnitude 7 or larger is now twice as likely to happen as to not happen.

Interstates 680, 80, 580 and State Route 4 run the length throughout Contra Costa County. These interstates and state routes divide the County into a west, south, north and east. An overpass or undercrossing collapse would significantly alter the response route and time for responding emergency equipment. This is due to limited crossings of the interstate and that in some areas there is only one surface street, which runs parallel to the interstate, which would be congested during a significant emergency.

Earthquakes of the magnitude experienced locally can cause major damage to electrical transmission facilities and to gas and electrical lines in buildings, which in turn start fires throughout the County. The occurrence of multiple fires will quickly deplete existing fire department resources; thereby reducing and/or delaying their response to any given fire.

(b) Impact

More restrictive electric vehicle charging standards would not negatively impact the County's infrastructure or public safety resources in the event of a major earthquake.

2. Soils

(a) Conditions

The area is replete with various soils, which are unstable, clay loam and alluvial fans being predominant. These soil conditions are moderately to severely prone to swelling and shrinking, are plastic, and tend to liquefy.

Throughout Contra Costa County, the topography and development growth has created a network of older, narrow roads. These roads vary from gravel to asphalt surface and vary in percent of slope, many exceeding twenty (20) percent. Several of these roads extend up through the winding passageways in the hills providing access to remote, affluent housing subdivisions. The

majority of these roads are private with no established maintenance program. During inclement weather, these roads are subject to rock and mudslides, as well as down trees, obstructing all vehicle traffic. It is anticipated that during an earthquake, several of these roads would be unpassable so as to prevent fire protection resources from reaching fires caused by gas line ruptures or other sources.

3. Topographic

(a) Conditions

i. Vegetation

Highly combustible dry grass, weeds, and brush are common in the hilly and open space areas adjacent to built-up locations six (6) to eight (8) months of each year. Many of these areas frequently experience wildland fires, which threaten nearby buildings, particularly those with wood roofs, or sidings. This condition can be found throughout Contra Costa County, especially in those developed and developing areas of the County. Earthquake gas fires due to gas line ruptures can ignite grasslands and stress fire district resources.

ii. Surface Features

The arrangement and location of natural and manmade surface features, including hills, creeks, canals, freeways, housing tracts, commercial development, fire stations, streets and roads, combine to limit feasible response routes for Fire District resources in and to District areas.

iii. Buildings, Landscaping and Terrain

Many of the newer large buildings and building complexes have building access and landscaping features and designs, which preclude or greatly limit any approach or operational access to them by Fire District vehicles. In addition, the presence of security gates and roads of inadequate width and grades that are too steep for Fire District vehicles adversely affect fire suppression efforts.

When Fire District vehicles cannot gain access to buildings involved with fire, the potential for complete loss is realized. Difficulty reaching a fire

site often requires that fire personnel both in numbers and in stamina. Access problems often result in severely delaying, misdirecting or making impossible fire and smoke control efforts. In existing structures where pitch roofs have been built over an existing roof, smoke detectors should be required to warn residents of smoke and fire before the arrival of fire personnel.

(b) Impact

More restrictive electric vehicle charging standards would not impact the availability of the County's fire or public safety resources.

B. Climatic

1. Greenhouse Gas Emissions

(a) Conditions

The California Air Resources Board has collected information on emissions from air pollution sources since 1969. This information is periodically compiled by State and local air pollution control agencies to create an emission inventory. The California emission inventory maintains information on various air pollution sources and identifies "mobile sources" (all on-road vehicles such as automobiles and trucks; off-road vehicles such as trains, ships, aircraft; and farm equipment) as a primary pollution source. California adopted land use and transportation policies that intend to help reduce greenhouse gas emissions by promoting the use of renewable energy sources.

(b) Impact

More restrictive electric vehicle charging standards would follow the intent of State legislation to aggressively implement energy policies designed to ensure success in meeting their greenhouse gas emission reduction and reusable energy goals.

2. Temperature

(a) Conditions

Temperatures have been recorded as high as 114° F. Average summer Contra Costa County Findings 5 highs are in the 75° to 90° range, with average maximums of 105° F in some areas of unincorporated Contra Costa County.

(b) Impact

More restrictive electric vehicle charging standards would not have a negative impact on the temperature conditions within the County.

3. Winds

(a) Conditions

Prevailing winds in many parts of Contra Costa County are from the north or northwest in the afternoons. However, winds are experienced from virtually every direction at one time or another. Velocities can reach fourteen (14) mph to twenty-three (23) mph ranges, gusting to twenty-five (25) to thirty-five (35) mph. Forty (40) mph winds are experienced occasionally and winds up to fifty-five (55) mph have been registered locally. During the winter half of the year, strong, dry, gusty winds from the north move through the area for several days creating extremely dry conditions.

(b) Impact

More restrictive electric vehicle charging standards would not have a negative impact on the wind conditions within the County.

II. Necessity of More Restrictive Standards

Because of the implementation of more restrictive electric vehicle charging standards would not have a negative impact on the conditions described above, and is consistent with State land use and transportation policies intended to help reduce greenhouse gas emissions, the Contra Costa County Board of Supervisors finds that the increased electric vehicle charging standards set forth in Ordinance No. 2015-22 are reasonable and justified. The ordinance amends the statewide codes by requiring the following:

New multi-family buildings:

- Increase the required number of Electric Vehicle Charging Stations (“EVCS”) to five percent of the total number of parking spaces provided, where three percent is the minimum required in the State Code;
- Require a minimum of one EVCS for every new multi-family building (three or more units) as opposed to State Code which requires no EVCS for multi-family buildings with fewer than 17 units;
- Require that Electric Vehicle Supply Equipment (“EVSE”) be installed for each EVCS in addition to the electrical infrastructure required by the State Code.

Changes for new non-residential buildings:

- Increase the required number of EVCS to six percent of total number of parking spaces provided, where three percent is the minimum required in the State Code;
- Required number of EVCS in new construction shall provide fully operational EVSE as opposed to State Code which requires electrical infrastructure only;
- Require a minimum of one EVCS for every parking area associated with a new commercial building as opposed to State Code which requires no EVCS for parking areas of 50 or fewer parking spaces. (Proposed projects with 10 or fewer off-street parking spaces are exempt from the requirement to provide EVCS)

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